General

Guideline Title

Screening for hearing loss in older adults: U.S. Preventive Services Task Force recommendation statement.

Bibliographic Source(s)

U.S. Preventive Services Task Force. Screening for hearing loss in older adults: U.S. Preventive Services Task Force recommendation statement. Ann Intern Med. 2012 Nov 6;157(9):655-61. [17 references] PubMed

Guideline Status

This is the current release of the guideline.

Recommendations

Major Recommendations

The US Preventive Services Task Force (USPSTF) grades its recommendations (A, B, C, D, or I) and identifies the Levels of Certainty regarding Net Benefit (High, Moderate, and Low). The definitions of these grades can be found at the end of the "Major Recommendations" field.

Summary of Recommendation and Evidence

The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for hearing loss in asymptomatic adults aged 50 years or older. (I statement)

See the Clinical Considerations section, below, for suggestions for practice regarding the I statement.

Clinical Considerations

Patient Population Under Consideration

This recommendation applies to asymptomatic adults aged 50 years or older. It does not apply to persons seeking evaluation for perceived hearing problems or for cognitive or affective symptoms that may be related to hearing loss. These persons should be assessed for objective hearing impairment and treated when indicated.

Risk Assessment

Aging is the most important risk factor for hearing loss. Presbycusis, a gradual, progressive decline in the ability to perceive high-frequency tones due to degeneration of hair cells in the ear, is the most common cause of hearing loss in older adults. However, hearing loss may result from several contributing factors. Other risk factors include a history of exposure to loud noises or ototoxic agents, including occupational exposures; previous

recurring inner ear infections; genetic factors; and certain systemic diseases, such as diabetes.

Screening Tests

Available screening tests include physical diagnostic tests, such as the whispered voice, finger rub, and watch tick tests (bearing in mind that many modern watches no longer audibly tick); single-question screening or longer patient questionnaires; and handheld audiometers. All are relatively accurate and reliable screening tools for identifying adults with objective hearing loss. In addition, self-administered questionnaires, such as the Hearing Handicap Inventory for the Elderly–Screening Version (HHIE-S), can identify adults with perceived (or subjective) hearing difficulty. Not all adults with perceived hearing difficulty have objective hearing loss.

Treatment

Before a person receives a hearing aid, diagnosis of objective hearing loss should be confirmed with a pure-tone audiogram. Fair evidence from studies in highly selected populations shows that hearing aids can improve self-reported hearing, communication, and social functioning for some adults with age-related hearing loss.

Suggestions for Practice Regarding I Statement

Potential Preventable Burden

Finding objective hearing loss indicates eligibility for a hearing aid but does not convincingly identify persons who will find the devices helpful and wearable and will use them. One subgroup analysis of a randomized, controlled trial found that in older adults who did not have self-perceived hearing loss at study entry, screening and receipt of a free hearing aid did not increase use after 1 year compared with an unscreened control group (and overall use was low, at 0% to 1.6%). However, health-related quality of life is improved for some adults with moderate to severe hearing loss who use hearing aids compared with those who do not.

Cost

The cost of screening varies according to the test. The cost of a questionnaire consists of the time required of both the patient and clinician. In-office clinical techniques (whispered voice, finger rub, or watch tick tests) and audiometry are quick to perform; however, handheld audiometers have up-front equipment costs. Diagnostic confirmation of a positive screen is typically done with a pure-tone audiogram, which requires a soundproof booth and trained personnel to administer the test and takes approximately 1 hour to complete. The cost of a hearing aid is a barrier to use for many older adults because it is not covered by Medicare and many private insurance companies.

Definitions:

What the U.S. Preventive Services Task Force (USPSTF) Grades Mean and Suggestions for Practice

Grade	Grade Definitions	Suggestions for Practice
A	The USPSTF recommends the service. There is high certainty that the net benefit is substantial.	Offer/provide this service.
B	The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.	Offer/provide this service.
C	*Note: The following statement is undergoing revision.* Clinicians may provide this service to selected patients depending on individual circumstances. However, for most individuals without signs or symptoms, there is likely to be only a small benefit from this service.	Offer/provide this service only if other considerations support offering or providing the service in an individual patient.
D	The USPSTF recommends against the service. There is moderate or high certainty.	Discourage the use of this service.
I statement	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.	Read the clinical considerations section of the USPSTF Recommendation Statement. If the service is offered, patients should understand the uncertainty about the balance of benefits and harms.

Grade	Grade Definitions	Suggestions for Practice

USPSTF Levels of Certainty Regarding Net Benefit

Definition: The USPSTF defines *certainty* as "likelihood that the USPSTF assessment of the net benefit of a preventive service is correct." The net benefit is defined as benefit minus harm of the preventive service as implemented in a general, primary care population. The USPSTF assigns a certainty level based on the nature of the overall evidence available to assess the net benefit of a preventive service.

Level of Certainty	Description
High	The available evidence usually includes consistent results from well-designed, well-conducted studies in representative primary care populations. These studies assess the effects of the preventive service on health outcomes. This conclusion is therefore unlikely to be strongly affected by the results of future studies.
Moderate	The available evidence is sufficient to determine the effects of the preventive service on health outcomes, but confidence in the estimate is constrained by such factors as: • The number, size, or quality of individual studies • Inconsistency of findings across individual studies • Limited generalizability of findings to routine primary care practice • Lack of coherence in the chain of evidence As more information becomes available, the magnitude or direction of the observed effect could change, and this change may be large enough to alter the conclusion.
Low	The available evidence is insufficient to assess effects on health outcomes. Evidence is insufficient because of: • The limited number or size of studies • Important flaws in study design or methods • Inconsistency of findings across individual studies • Gaps in the chain of evidence • Findings that are not generalizable to routine primary care practice • A lack of information on important health outcomes More information may allow an estimation of effects on health outcomes.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Hearing loss

Guideline Category

Prevention

Risk Assessment

Screening

Clinical Specialty

Family Practice

Internal Medicine

Otolaryngology

Preventive Medicine

Intended Users

Advanced Practice Nurses

Allied Health Personnel

Nurses

Physician Assistants

Physicians

Guideline Objective(s)

- To summarize the U.S. Preventive Services Task Force (USPSTF) recommendations on screening for hearing loss in older adults
- To update the 1996 USPSTF recommendation statement on screening for hearing impairment in older adults

Target Population

Asymptomatic adults aged 50 years or older

Note: The recommendation does not apply to persons seeking evaluation for perceived hearing problems or for cognitive or affective symptoms that may be related to hearing loss.

Interventions and Practices Considered

Screening for hearing loss

Major Outcomes Considered

Key Question 1: Does screening of asymptomatic adults aged 50 years or older lead to improved health outcomes?

Key Question 2: How accurate are the hearing-loss screening methods among older adults, including questionnaires, clinical techniques (whispered voice test), and hand-held audiometry?

Key Question 3: How efficacious is the treatment of (screen-detected) hearing loss, namely amplification, in improving health outcomes?

Key Question 4: What are the adverse effects of hearing-loss screening in adults aged 50 years or older?

Key Question 5: What are the adverse effects of treatment of (screen-detected) hearing loss in adults aged 50 years or older?

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Note from the National Guideline Clearinghouse (NGC): A systematic evidence review was prepared by the Oregon Evidence-based Practice Center and the Kaiser Permanente Center for Health Research for the U.S. Preventive Services Task Force (USPSTF) (see the "Availability of Companion Documents" field).

Data Sources

The Evidence Review Team searched Ovid MEDLINE from 1950 to July 2010 and the Cochrane Database of Systematic Reviews and Central Register of Controlled Trials through the second quarter of 2010 to identify relevant articles. Appendix Table 1 of the evidence review (see the "Availability of Companion Documents" field) contains the full search strategy. Reference lists of relevant articles were also reviewed.

Study Selection

The figure in the evidence review document shows the flow of studies from initial identification to final inclusion or exclusion. The Evidence Review Team selected studies pertaining to screening, diagnosis, and treatment of hearing loss in adults aged 50 years or older by using predefined inclusion and exclusion criteria (for details on study selection, see Appendix Table 2 in the evidence review [see the "Availability of Companion Documents" field]). Two reviewers evaluated each study to determine eligibility for inclusion. The Evidence Review Team restricted the review to published, English-language studies. They used randomized, controlled trials and controlled observational studies to assess the effectiveness and harms of screening and treatment. For diagnostic accuracy, they included studies that compared a screening test with a reference standard.

Number of Source Documents

Key Question 1: 1 randomized controlled trial

Key Question 2: 20 studies (clinical tests: 4; single-question clinical tests: 8; questionnaires: 9; AudioScope devices: 6)

Key Question 3: 4 randomized controlled trials (5 publications)

Key Question 4: No studies

Key Question 5: No studies

Methods Used to Assess the Quality and Strength of the Evidence

Expert Consensus

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Two authors independently rated the internal validity of each study as "good," "fair," or "poor" by using predefined criteria developed by the U.S. Preventive Services Task Force (USPSTF) (see Appendix Table 3 in the Evidence Review [see the "Availability of Companion Documents" field]).

Methods Used to Analyze the Evidence

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

Note from the National Guideline Clearinghouse (NGC): A systematic evidence review was prepared by the Oregon Evidence-based Practice Center and the Kaiser Permanente Center for Health Research for the Agency for Healthcare Research and Quality (AHRQ) for use by the U.S. Preventive Services Task Force (USPSTF) (see the "Availability of Companion Documents" field).

Data Extraction and Quality Assessment

The Evidence Review Team abstracted details on patient population, study design, data analysis, follow-up, and results. One author abstracted data, and another verified the data. Two authors independently rated the internal validity of each study as "good," "fair," or "poor" by using predefined criteria developed by the USPSTF (see Appendix Table 3 in the evidence review [see the "Availability of Companion Documents" field]). The Evidence Review Team also evaluated the applicability of studies to primary care screening on the basis of whether patients were recruited from primary care settings, prevalence and severity of hearing loss, proportion of patients with perceived hearing loss, and access to hearing aids (such as availability of free hearing aids). They resolved discrepancies in quality ratings by discussion and consensus.

For diagnostic accuracy studies, the Evidence Review Team used the diagti procedure in Stata, version 10 (StataCorp, College Station, Texas), to calculate sensitivities, specificities, and likelihood ratios. For studies that reported diagnostic accuracy based on more than one definition of hearing loss, they estimated median values on the basis of the Ventry and Weinstein criteria (for >40-dB hearing loss), the Speech Frequency Pure-Tone Average criteria (for >25-dB hearing loss), or the definition most similar to those used by other relevant studies. They used the cci procedure in Stata to calculate diagnostic odds ratios with exact 95% confidence intervals (CIs).

Data Synthesis and Analysis

The Evidence Review Team assessed the overall strength of the body of evidence for each key question ("good," "fair," or "poor") by using methods developed by the U.S. Preventive Services Task Force (USPSTF) on the basis of the number, quality, and size of studies; consistency of results among studies; and directness of evidence.

The Evidence Review Team did not quantitatively pool results on diagnostic accuracy because of differences across studies in populations evaluated, definitions of hearing loss, screening tests evaluated, and screening cutoffs applied. Instead, they created descriptive statistics with the median sensitivity, specificity, and likelihood ratios, as well as associated ranges. They chose the total range, rather than the interquartile range, because certain outcomes were reported by only a few studies and the summary range highlights the greater uncertainty in the estimates. Too few randomized trials of hearing loss treatments were available to perform meta-analysis.

Methods Used to Formulate the Recommendations

Balance Sheets

Expert Consensus

Description of Methods Used to Formulate the Recommendations

The U.S. Preventive Services Task Force (USPSTF) systematically reviews the evidence concerning both the benefits and harms of widespread implementation of a preventive service. It then assesses the certainty of the evidence and the magnitude of the benefits and harms. On the basis of this assessment, the USPSTF assigns a letter grade to each preventive service signifying its recommendation about provision of the service (see Table below). An important, but often challenging, step is determining the balance between benefits and harms to estimate "net benefit" (that is, benefits minus harms).

Table 1. U.S. Preventive Services Task Force Recommendation Grid*

Certainty of Net Benefit	Magnitude of Net Benefit			
	Substantial	Moderate	Small	Zero/Negative
High	A	B	C	D

Certainty of Net Benefit	Magnitude of Net Benefit			
	A	B	C	D
High	Substantial	Moderate	Small	Zero/Negative
Moderate	B	B	C	D
Low	Insufficient			

*_A_, _B_, _C_, _D_, and _I (Insufficient)_ represent the letter grades of recommendation or statement of insufficient evidence assigned by the U.S. Preventive Services Task Force after assessing certainty and magnitude of net benefit of the service (see the "Rating Scheme for the Strength of the Recommendations" field).

The overarching question that the Task Force seeks to answer for every preventive service is whether evidence suggests that provision of the service would improve health outcomes if implemented in a general primary care population. For screening topics, this standard could be met by a large randomized, controlled trial (RCT) in a representative asymptomatic population with follow-up of all members of both the group "invited for screening" and the group "not invited for screening."

Direct RCT evidence about screening is often unavailable, so the Task Force considers indirect evidence. To guide its selection of indirect evidence, the Task Force constructs a "chain of evidence" within an analytic framework. For each key question, the body of pertinent literature is critically appraised, focusing on the following 6 questions:

1. Do the studies have the appropriate research design to answer the key question(s)?
2. To what extent are the existing studies of high quality? (i.e., what is the internal validity?)
3. To what extent are the results of the studies generalizable to the general U.S. primary care population and situation? (i.e., what is the external validity?)
4. How many studies have been conducted that address the key question(s)? How large are the studies? (i.e., what is the precision of the evidence?)
5. How consistent are the results of the studies?
6. Are there additional factors that assist the USPSTF in drawing conclusions (e.g., presence or absence of dose–response effects, fit within a biologic model)?

The next step in the Task Force process is to use the evidence from the key questions to assess whether there would be net benefit if the service were implemented. In 2001, the USPSTF published an article that documented its systematic processes of evidence evaluation and recommendation development. At that time, the Task Force's overall assessment of evidence was described as good, fair, or poor. The Task Force realized that this rating seemed to apply only to how well studies were conducted and did not fully capture all of the issues that go into an overall assessment of the evidence about net benefit. To avoid confusion, the Task Force has changed its terminology. Whereas individual study quality will continue to be characterized as good, fair, or poor, the term certainty will now be used to describe the Task Force's assessment of the overall body of evidence about net benefit of a preventive service and the likelihood that the assessment is correct. Certainty will be determined by considering all 6 questions listed above; the judgment about certainty will be described as high, moderate, or low.

In making its assessment of certainty about net benefit, the evaluation of the evidence from each key question plays a primary role. It is important to note that the Task Force makes recommendations for real-world medical practice in the United States and must determine to what extent the evidence for each key question—even evidence from screening RCTs or treatment RCTs—can be applied to the general primary care population. Frequently, studies are conducted in highly selected populations under special conditions. The Task Force must consider differences between the general primary care population and the populations studied in RCTs and make judgments about the likelihood of observing the same effect in actual practice.

It is also important to note that one of the key questions in the analytic framework refers to the potential harms of the preventive service. The Task Force considers the evidence about the benefits and harms of preventive services separately and equally. Data about harms are often obtained from observational studies because harms observed in RCTs may not be representative of those found in usual practice and because some harms are not completely measured and reported in RCTs.

Putting the body of evidence for all key questions together as a chain, the Task Force assesses the certainty of net benefit of a preventive service by asking the 6 major questions listed above. The Task Force would rate a body of convincing evidence about the benefits of a service that, for example, derives from several RCTs of screening in which the estimate of benefits can be generalized to the general primary care population as "high" certainty (see the "Rating Scheme for the Strength of the Recommendations" field). The Task Force would rate a body of evidence that was not clearly applicable to general practice or has other defects in quality, research design, or consistency of studies as "moderate" certainty. Certainty is "low" when, for example, there are gaps in the evidence linking parts of the analytic framework, when evidence to determine the harms of treatment is unavailable, or when evidence about the benefits of treatment is insufficient. Table 4 in the methodology document listed below (see the "Availability of Companion Documents" field) summarizes the current terminology used by the Task Force to describe the critical assessment of evidence at all 3 levels: individual studies, key questions, and overall certainty of net benefit of the preventive service.

Sawaya GF et al. Update on the methods of the U.S. Preventive Services Task Force: estimating certainty and magnitude of net benefit. Ann Intern Med. 2007;147:871-875 [5 references].

I Statements

For I statements, the USPSTF has a new plan to commission its Evidence-based Practice Centers to collect information in 4 domains pertinent to clinical decisions about prevention and to report this information routinely. This plan is described in the paper: Petitti DB et al. Update on the methods of the U.S. Preventive Services Task Force: insufficient evidence. *Ann Intern Med.* 2009;150:199-205. http://annals.org/article.aspx?articleid=744255

The first domain is potential preventable burden of suffering from the condition. When evidence is insufficient, provision of an intervention designed to prevent a serious condition (such as dementia) might be viewed more favorably than provision of a service designed to prevent a condition that does not cause as much suffering (such as rash). The USPSTF recognized that "burden of suffering" is subjective and involves judgment. In clinical settings, it should be informed by patient values and concerns.

The second domain is potential harm of the intervention. When evidence is insufficient, an intervention with a large potential for harm (such as major surgery) might be viewed less favorably than an intervention with a small potential for harm (such as advice to watch less television). The USPSTF again acknowledges the subjective nature and the difficulty of assessing potential harms: for example, how bad is a "mild" stroke?

The third domain is cost—not just monetary cost, but opportunity cost, in particular the amount of time a provider spends to provide the service, the amount of time the patient spends to partake of it, and the benefits that might derive from alternative uses of the time or money for patients, clinicians, or systems. Consideration of clinician time is especially important for preventive services with only insufficient evidence because providing them could "crowd out" provision of preventive services with proven value, services for conditions that require immediate action, or services more desired by the patient. For example, a decision to routinely inspect the skin could take up the time available to discuss smoking cessation, or to address an acute problem or a minor injury that the patient considers important.

The fourth domain is current practice. This domain was chosen because it is important to clinicians for at least 2 reasons. Clinicians justifiably fear that not doing something that is done on a widespread basis in the community may lead to litigation. More important, addressing patient expectations is a crucial part of the clinician–patient relationship in terms of building trust and developing a collaborative therapeutic relationship. The consequences of not providing a service that is neither widely available nor widely used are less serious than not providing a service accepted by the medical profession and thus expected by patients. Furthermore, ingrained care practices are difficult to change, and efforts should preferentially be directed to changing those practices for which the evidence to support change is compelling.

Although the reviewers did not explicitly recognize it when these domains were chosen, the domains all involve consideration of the potential consequences—for patients, clinicians, and systems—of providing or not providing a service. Others writing about medical decision making in the face of uncertainty have suggested that the consequences of action or inaction should play a prominent role in decisions.

Rating Scheme for the Strength of the Recommendations

What the U.S. Preventive Services Task Force (USPSTF) Grades Mean and Suggestions for Practice

Grade	Grade Definitions	Suggestions for Practice
A	The USPSTF recommends the service. There is high certainty that the net benefit is substantial.	Offer/provide this service.
B	The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.	Offer/provide this service.
C	*Note: The following statement is undergoing revision.* Clinicians may provide this service to selected patients depending on individual circumstances. However, for most individuals without signs or symptoms, there is likely to be only a small benefit from this service.	Offer/provide this service only if other considerations support offering or providing the service in an individual patient.
D	The USPSTF recommends against the service. There is moderate or	Discourage the use of this service.

Grade	high certainty. Grade Definitions	Suggestions for Practice
I statement	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.	Read the clinical considerations section of the USPSTF Recommendation Statement. If the service is offered, patients should understand the uncertainty about the balance of benefits and harms.

USPSTF Levels of Certainty Regarding Net Benefit

Definition: The USPSTF defines *certainty* as "likelihood that the USPSTF assessment of the net benefit of a preventive service is correct." The net benefit is defined as benefit minus harm of the preventive service as implemented in a general, primary care population. The USPSTF assigns a certainty level based on the nature of the overall evidence available to assess the net benefit of a preventive service.

Level of Certainty	Description
High	The available evidence usually includes consistent results from well-designed, well-conducted studies in representative primary care populations. These studies assess the effects of the preventive service on health outcomes. This conclusion is therefore unlikely to be strongly affected by the results of future studies.
Moderate	The available evidence is sufficient to determine the effects of the preventive service on health outcomes, but confidence in the estimate is constrained by such factors as: • The number, size, or quality of individual studies • Inconsistency of findings across individual studies • Limited generalizability of findings to routine primary care practice • Lack of coherence in the chain of evidence As more information becomes available, the magnitude or direction of the observed effect could change, and this change may be large enough to alter the conclusion.
Low	The available evidence is insufficient to assess effects on health outcomes. Evidence is insufficient because of: • The limited number or size of studies • Important flaws in study design or methods • Inconsistency of findings across individual studies • Gaps in the chain of evidence • Findings that are not generalizable to routine primary care practice • A lack of information on important health outcomes More information may allow an estimation of effects on health outcomes.

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

Comparison with Guidelines from Other Groups

External Peer Review

Internal Peer Review

Description of Method of Guideline Validation

Peer Review. Before the U.S. Preventive Services Task Force (USPSTF) makes its final determinations about recommendations on a given preventive service, the Evidence-based Practice Center and the Agency for Healthcare Research and Quality send a draft evidence review to four to six external experts and to Federal agencies and professional and disease-based health organizations with interests in the topic. The experts are asked to examine the review critically for accuracy and completeness and to respond to a series of specific questions about the document. After assembling these external review comments and documenting the proposed response to key comments, the topic team presents this information to the USPSTF in memo form. In this way, the USPSTF can consider these external comments before it votes on its recommendations about the service. Draft recommendation statements are then circulated for comment among reviewers representing professional societies, voluntary organizations, and Federal agencies, as well as posted on the Task Force Web site for public comment. These comments are discussed before the final recommendations are confirmed.

Response to Public Comment. A draft version of this recommendation statement was posted for public comment on the USPSTF Web site from 4 October to 11 November 2011 and again from 30 November to 13 December 2011. In response to the comments, the USPSTF has clarified its interest in health and functional outcomes related to screening and treatment of hearing loss and added language to emphasize that some persons with moderate to severe hearing loss have shown improvements in quality of life with hearing aid use. It also clarified the patient population to which the recommendation applies.

Commenters raised several topics that USPSTF did not address due to of lack of available evidence. These topics included the effect of hearing loss on social functioning of affected persons, their partners and families, and employment issues; incidental detection of other health conditions (for example, acoustic neuromas or multiple sclerosis) or prevention of ongoing hearing deterioration; whether an alternative recommendation should be offered for higher-risk groups; and direction from the USPSTF on standardizing screening approaches in clinical practice. See the original guideline document for additional detail.

Comparison with Guidelines from Other Groups. Recommendations for screening from the following groups were discussed: the American Speech-Language-Hearing Association and the American Congress of Obstetricians and Gynecologists.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is not specifically stated for each recommendation.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Benefits of Detection and Early Treatment

Because of a paucity of directly applicable trials, evidence is inadequate to determine whether screening for hearing loss improves health outcomes in persons who are unaware of hearing loss or have perceived hearing loss but have not sought care. One good-quality study showed that hearing aids can improve self-reported hearing, communication, and social functioning for some adults with age-related hearing loss. This study nearly exclusively evaluated white male veterans with moderate hearing loss and moderate to severe perceived hearing impairment, more than one third of whom had been referred for evaluation of hearing problems; as such, these findings were of limited applicability to a hypothetical asymptomatic, screened population. The only randomized trial that directly evaluated the effect of screening for hearing impairment—rather than the effect of treatment alone—was not primarily designed nor had sufficient statistical power to detect differences in hearing-related function. The U.S. Preventive Services Task Force (USPSTF) concludes that the evidence is inadequate to assess the benefit of screening an unselected population.

Potential Harms

Harms of Detection and Early Treatment

Because of a lack of studies, evidence to determine the magnitude of harms of screening for hearing loss in older adults is inadequate; however, given the noninvasive nature of both screening and associated diagnostic evaluation, these harms are probably small to none. Adequate evidence shows that the harms of treatment of hearing loss in older adults are small to none.

Qualifying Statements

Qualifying Statements

- The U.S. Preventive Services Task Force (USPSTF) makes recommendations about the effectiveness of specific clinical preventive services for patients without related signs or symptoms.
- It bases its recommendations on the evidence of both the benefits and harms of the service and an assessment of the balance. The USPSTF does not consider the costs of providing a service in this assessment.
- The USPSTF recognizes that clinical decisions involve more considerations than evidence alone. Clinicians should understand the evidence but individualize decision making to the specific patient or situation. Similarly, the USPSTF notes that policy and coverage decisions involve considerations in addition to the evidence of clinical benefits and harms.
- Recommendations made by the USPSTF are independent of the U.S. government. They should not be construed as an official position of the Agency for Healthcare Research and Quality or the U.S. Department of Health and Human Services.

Implementation of the Guideline

Description of Implementation Strategy

The experiences of the first and second U.S. Preventive Services Task Force (USPSTF), as well as that of other evidence-based guideline efforts, have highlighted the importance of identifying effective ways to implement clinical recommendations. Practice guidelines are relatively weak tools for changing clinical practice when used in isolation. To effect change, guidelines must be coupled with strategies to improve their acceptance and feasibility. Such strategies include enlisting the support of local opinion leaders, using reminder systems for clinicians and patients, adopting standing orders, and audit and feedback of information to clinicians about their compliance with recommended practice.

In the case of preventive services guidelines, implementation needs to go beyond traditional dissemination and promotion efforts to recognize the added patient and clinician barriers that affect preventive care. These include clinicians' ambivalence about whether preventive medicine is part of their job, the psychological and practical challenges that patients face in changing behaviors, lack of access to health care or of insurance coverage for preventive services for some patients, competing pressures within the context of shorter office visits, and the lack of organized systems in most practices to ensure the delivery of recommended preventive care.

Dissemination strategies have changed dramatically in this age of electronic information. While recognizing the continuing value of journals and other print formats for dissemination, the USPSTF Task Force will make all its products available through its Web site . The combination of electronic access and extensive material in the public domain should make it easier for a broad audience of users to access USPSTF materials and adapt them for their local needs. Online access to USPSTF products also opens up new possibilities for the appearance of the annual, pocket-size *Guide to Clinical Preventive Services*.

To be successful, approaches for implementing prevention have to be tailored to the local level and deal with the specific barriers at a given site, typically requiring the redesign of systems of care. Such a systems approach to prevention has had notable success in established staff-model health maintenance organizations, by addressing organization of care, emphasizing a philosophy of prevention, and altering the training and incentives for clinicians. Staff-model plans also benefit from integrated information systems that can track the use of needed services and generate automatic reminders aimed at patients and clinicians, some of the most consistently successful interventions. Information systems remain a major challenge for individual clinicians' offices, however, as well as for looser affiliations of practices in network-model managed care and independent practice associations, where data on patient visits, referrals, and test results are not always centralized.

Implementation Tools

Foreign Language Translations

Mobile Device Resources

Patient Resources

Pocket Guide/Reference Cards

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Staying Healthy

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

U.S. Preventive Services Task Force. Screening for hearing loss in older adults: U.S. Preventive Services Task Force recommendation statement. Ann Intern Med. 2012 Nov 6;157(9):655-61. [17 references] PubMed

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

1996 (revised 2012 Nov 6)

Guideline Developer(s)

U.S. Preventive Services Task Force - Independent Expert Panel

Guideline Developer Comment

The U.S. Preventive Services Task Force (USPSTF) is a federally-appointed panel of independent experts. Conclusions of the USPSTF do not necessarily reflect policy of the U.S. Department of Health and Human Services (DHHS) or its agencies.

Source(s) of Funding

The U.S. Preventive Services Task Force (USPSTF) is an independent, voluntary body. The U.S. Congress mandates that the Agency for Healthcare Research and Quality support the operations of the USPSTF.

Guideline Committee

U.S. Preventive Services Task Force (USPSTF)

Composition of Group That Authored the Guideline

*Task Force Members**: Virginia A. Moyer, MD, MPH (*Chair*) (Baylor College of Medicine, Houston, Texas); Michael L. LeFevre, MD, MSPH (*Co-Vice Chair*) (University of Missouri School of Medicine, Columbia, Missouri); Albert L. Siu, MD, MSPH (*Co-Vice Chair*) (Mount Sinai School of Medicine, New York, and James J. Peters Veterans Affairs Medical Center, Bronx, New York); Linda Ciofu Baumann, PhD, RN (University of Wisconsin, Madison, Wisconsin); Kirsten Bibbins-Domingo, PhD, MD (University of California, San Francisco, San Francisco, California); Susan J. Curry, PhD (University of Iowa College of Public Health, Iowa City, Iowa); Mark Ebell, MD, MS (University of Georgia, Athens, Georgia); Glenn Flores, MD (University of Texas Southwestern, Dallas, Texas); Adelita Gonzales Cantu, RN, PhD (University of Texas Health Science Center, San Antonio, Texas); David C. Grossman, MD, MPH (Group Health Cooperative, Seattle, Washington); Jessica Herzstein, MD, MPH (Air Products, Allentown, Pennsylvania); Joy Melnikow, MD, MPH (University of California, Davis, Sacramento, California); Wanda K. Nicholson, MD, MPH, MBA (University of North Carolina School of Medicine, Chapel Hill, North Carolina); Douglas K. Owens, MD, MS (Veteran Affairs Palo Alto Health Care System, Palo Alto, and Stanford University, Stanford, California); Carolina Reyes, MD, MPH (Virginia Hospital Center, Arlington, Virginia); and Timothy J. Wilt, MD, MPH (University of Minnesota Department of Medicine and Minneapolis Veteran Affairs Medical Center, Minneapolis, Minnesota). Sanford Schwartz, MD, a former USPSTF member, also contributed to the development of this recommendation.

**Members of the USPSTF at the time this recommendation was finalized. For a list of current Task Force members, go to http://www.uspreventiveservicestaskforce.org/Page/Name/our-members*.

Financial Disclosures/Conflicts of Interest

The U.S. Preventive Services Task Force (USPSTF) has an explicit policy concerning conflict of interest. All members disclose at each meeting if they have a significant financial, professional/business, or intellectual conflict for each topic being discussed. USPSTF members with conflicts may be recused from discussing or voting on recommendations about the topic in question.

Disclosure forms from USPSTF members can be viewed at www.acponline.org/authors/icmje/ConflictOfInterestForms.do?msNum=M12-1766.

Guideline Status

This is the current release of the guideline.

Guideline Availability

Electronic copies: Available from the Annals of Internal Medicine Web site.

Availability of Companion Documents

Evidence Reviews:

- Chou R, Dana T, Bougatsos C, Fleming C, Beil T. Screening adults aged 50 years or older for hearing loss: a review of the evidence for the U.S. Preventive Services Task Force. Ann Intern Med. 2011;154:347-55.
- Chou R, Dana T, Bougatsos C, Fleming C, Beil T. Screening for hearing loss in adults ages 50 years and older: a review of the evidence for the U.S. Preventive Services Task Force. Evidence synthesis No. 83. AHRQ Publication No. 11-05153-EF-1. Rockville (MD): Agency for Health Care Research and Quality (AHRQ); 2011 Mar.

Electronic copies: Available from the U.S. Preventive Services Task Force (USPSTF) Web site.

Background Articles:

- Barton MB et al. How to read the new recommendation statement: methods update from the U.S. Preventive Services Task Force. Ann Intern Med 2007;147:123-127.
- Guirguis-Blake J et al. Current processes of the U.S. Preventive Services Task Force: refining evidence-based recommendation development. Ann Intern Med 2007;147:117-122.
- Sawaya GF et al. Update on the methods of the U.S. Preventive Services Task Force: estimating certainty and magnitude of net benefit. Ann Intern Med 2007;147:871-875.
- Petitti DB et al. Update on the methods of the U.S. Preventive Services Task Force: insufficient evidence. Ann Intern Med. 2009;150:199-205.

Electronic copies: Available from the USPSTF Web site.

The following are also available:

- Screening for hearing loss in older adults. Clinical summary of U.S. Preventive Services Task Force recommendation. 2012 Aug. Electronic copies: Available from the USPSTF Web site.
- The guide to clinical preventive services, 2010-2011. Recommendations of the U.S. Preventive Services Task Force. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ), 2010. 292 p. Electronic copies available from the AHRQ Web site. See the related QualityTool summary on the Health Care Innovations Exchange Web site.

The Electronic Preventive Services Selector (ePSS), available as a PDA application and a web-based tool, is a quick hands-on tool designed to help primary care clinicians identify the screening, counseling, and preventive medication services that are appropriate for their patients. It is based on current recommendations of the USPSTF and can be searched by specific patient characteristics such as age, sex, and selected behavioral risk factors.

Patient Resources

The following are available:

- Screening for hearing loss in older adults. Understanding Task Force recommendations. U.S. Preventive Services Task Force. Consumer fact sheet. 2012 Aug. 3 p. Electronic copies: Available in Portable Document Format (PDF) from the U.S. Preventive Services Task Force Web site.
- Screening for hearing loss in older adults. Summary for patients. 2012 Aug. 1 p. Electronic copies: Available from the Annals of Internal Medicine Web site.
- Women: stay healthy at any age. Rockville (MD): Agency for Healthcare Research and Quality. AHRQ Pub. No. 10-IP002-A. 2010 Aug. 2 p. Electronic copies: Available in Portable Document Format (PDF) in English and Spanish from the AHRQ Web site. See the related QualityTool summary on the Health Care Innovations Exchange Web site.
- Men: stay healthy at any age. Rockville (MD): Agency for Healthcare Research and Quality. AHRQ Pub. No. 10-IP004-A. 2010 Aug. 2 p. Electronic copies: Available in PDF in English and Spanish from the AHRQ Web site. See the related QualityTool summary on the Health Care Innovations Exchange Web site.

Print copies: Available in English and Spanish from the Agency for Healthcare Research and Quality (AHRQ) Publications Clearinghouse. For more information, go to http://www.ahrq.gov/research/publications/index.html or call 1-800-358-9295 (U.S. only).

Myhealthfinder is a new tool that provides personalized recommendations for clinical preventive services specific to the user's age, gender, and pregnancy status. It features evidence-based recommendations from the USPSTF and is available at www.healthfinder.gov.

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide

specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC Status

This NGC summary was completed by ECRI Institute on September 26, 2012. The information was verified by the guideline developer on October 19, 2012.

Copyright Statement

Disclaimer

NGC Disclaimer